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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

8071-188T (OPP030864US)

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on May 30, 2006

Signature

Typed or printed name Scott L. Appelbaum

Application Number

10/602,054

Filed

June 24, 2003

First Named Inventor

Dae-Ho Choo

Art Unit

2883

Examiner

Timothy L. Rude

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐

applicant/inventor.

☐

assignee of record of the entire interest.

See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

☒

attorney or agent of record.

Registration number 41,587

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attorney or agent acting under 37 CFR 1.34.

Registration number if acting under 37 CFR 1.34 _____


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Telephone number

May 30, 2006

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.
Submit multiple forms if more than one signature is required, see below*.

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*Total of _____ forms are submitted.

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8071-188T (OPP030864US)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Dae-Ho CHOO, et al. EXAMINER: Timothy L. Rude
SERIAL NO.: 10/602,054 GROUP ART UNIT: 2883
FILED: June 24, 2003
FOR: **IN LINE SYSTEM AND METHOD FOR MANUFACTURING
LIQUID CRYSTAL DISPLAY**

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRE-APPEAL BRIEF REQUEST FOR REVIEW


Sir:

This paper is being filed in support of the Notice of Appeal filed on April 28, 2006
with the United States Patent and Trademark Office.

CERTIFICATE OF MAILING 37 C.F.R. § 1.8(a)

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Dated: May 30, 2006



Scott L. Appelbaum

REMARKS

Please consider the following reasons for this Pre-Appeal Brief Request For Review.

Claims 1, 2, 4-32 and 56 are pending and stand rejected in the above-referenced application. Claims 21-32 have been withdrawn from consideration.

Claims 1, 2, 4-20 and 56 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,978,065 to Kawasumi et al. ("the Kawasumi patent") in view of Japanese Patent Application Publication No. JP56114928A to Adachi ("the Adachi publication").

Claim 1 reads as follows:

An in-line system for manufacturing liquid crystal displays, comprising:

a sealant-applying unit depositing sealant on one of two substrates, either one of the two substrates having at least one liquid crystal cell;

a sealant heat-treating unit forming a reaction-prevention layer on a surface of the sealant to prevent a reaction between the sealant and a liquid crystal material;

a liquid crystal depositing unit depositing the liquid crystal material on the substrate where the sealant is deposited;

a substrate-attaching unit receiving the two substrates from the sealant-applying unit or the liquid crystal depositing unit and conjoining the substrates in a vacuum state; and

an in-line convey unit conveying the substrates in the in-line system.

The combination of Kawasumi and Adachi fails to teach or suggest all of the features recited in claim 1. In particular, the Kawasumi and Adachi combination at the very least fails to teach or suggest a substrate-attaching unit receiving the two substrates from the sealant-applying unit or the liquid crystal depositing unit and conjoining the substrates in a vacuum state, as recited in claim 1. In addition, the Kawasumi and Adachi combination also at the very least fails to teach or suggest an in-line convey unit conveying the substrates in the in-line system.

In the February 28, 2006 Final Office Action, the Examiner maintains that:

Kawasumi discloses a substrate attaching unit 5, 7, conjoining substrates in a vacuum in the background section of the patent. Further, the Examiner concedes that Kawasumi does not explicitly disclose the use of an in-line conveying unit, but states that the Adachi reference teaches the use of a belt conveyor to provide a cleaner environment for the operators. According to the Examiner, Adachi is evidence that ordinary workers in the art of liquid crystals would find reason, suggestion or motivation to add the use of a belt conveyor to provide a cleaner environment for the operators. Moreover, the Examiner takes the position that it would have been obvious to one having ordinary skill in the art of liquid crystals at the time the invention was made to modify the LCD system of Kawasumi with the belt conveyor of Adachi to provide a cleaner environment for the operators.

See February 28, 2006 Final Office Action, Pages 5-6.

However, Applicants respectfully submit that the Examiner committed clear error in the above-mentioned Final Office Action in concluding that Kamasumi teaches a substrate attaching unit conjoining substrates in a vacuum. Although Kawasumi may mention vacuum conditions for manufacturing liquid crystal display (LCDs) in conjunction with describing other conventional processes, Kawasumi does so only for the purpose of teaching away from their use in manufacturing LCDs. Instead, it is clear that a primary objective of Kawasumi is to have LCD manufacturing processes which avoid the use of vacuum conditions altogether. The above statement is evidenced by the fact that Kawasumi only discusses what it

perceives to be disadvantages associated with using vacuum conditions in manufacturing LCDs and also by the fact that none of the embodiments described in Kawasumi utilize vacuum conditions. For example, in Kawasumi it is stated throughout that using vacuum conditions results in "...long manufacturing time and high cost." (See Col. 1, lines 26-50 and Col. 7, lines 4-7 of the Kawasumi patent). Moreover, Kawasumi states that with its LCD manufacturing processes, the need for using vacuum apparatuses or vacuum conditions is no longer necessary and thus manufacturing costs may be kept low. (See Col. 7, lines 4-7 and Col. 21, lines 30-32 of the Kawasumi patent).

Furthermore, Applicants respectfully disagree with the Examiner's statement that Kawasumi mentions that the use of vacuum conditions provides suitable LCD though more costly manufacturing conditions and affords better degasification of liquid crystal material. Rather, there does not appear to be any mention in Kawasumi whatsoever of any beneficial results stemming from the use of vacuum condition in manufacturing LCDs. On the contrary, Kawasumi, as mentioned above, only discusses disadvantages associated with using vacuum conditions in manufacturing LCDs and also states that its processes provide a cost effective replacement for those LCD manufacturing processes which utilize vacuum conditions. (See again Col. 1, lines 26-50, Col. 7, lines 4-7 and Col. 21, lines 30-32 of the Kawasumi patent).

The teachings of Kawasumi thus clearly discourage and teach away from using vacuum conditions in manufacturing LCDs. Furthermore, the Adachi publication fails to cure the above deficiency of the Kawasumi patent but rather is completely silent regarding a substrate-attaching unit receiving two substrates from a sealant-applying unit or a liquid crystal depositing unit and conjoining the substrates in a vacuum state as essentially recited in claim 1. Therefore, for at least the reasons discussed, one skilled in the art, when combining the teachings of Kawasumi with Adachi, would clearly be led away from providing a LCD manufacturing process which included a substrate-attaching unit receiving the two

substrates from the sealant-applying unit or the liquid crystal depositing unit and conjoining the substrates in a vacuum state as recited in claim 1.

It is well known that under the U.S. patent laws, when a prior art reference or references teaches away or leads away from a claimed invention, obviousness may be rebutted. **(See MPEP 2145)**. Accordingly, for at least the reasons discussed above, there are clear errors in Examiner's rejections of claim 1 based upon the Kawasumi and Adachi combination with respect to the feature of a substrate-attaching unit receiving the two substrates from the sealant-applying unit or the liquid crystal depositing unit and conjoining the substrates in a vacuum state as recited in claim 1.

In addition, as mentioned above, the combination of Kawasumi with Adachi also at the very least fails to teach or suggest an in-line convey unit conveying the substrates in an in-line system. As conceded by the Examiner, Kawasumi fails to teach or suggest an in-line conveying unit. **(See page 5 of the February 28, 2006 Final Office Action)**. Moreover, the Adachi reference fails to cure the above deficiency of the Kawasumi reference because contrary to the Examiner's apparent characterization of the belt conveyor 1 feature described in Adachi as being the same or equivalent feature as the in-line conveying unit feature recited in claim 1, these features are really distinct structurally from one another and thus are not the same features.

For example, an exemplary embodiment of the present invention illustrates in-line convey units 1110, 1120, 1120, 1140, 1150, 1170 and 1180 which are within the scope of claim 1. **(See page 6, lines 6-20 and Fig. 3 of the present specification)**. Clearly, the belt conveyor 1 of Adachi does not have the same structure and thus is not the same feature as the in-line convey unit conveying the substrates in the in-line system, as recited in claim 1.

Therefore, there are clear errors in Examiner's rejections based on the combination of Kawasumi and Adachi with respect to the feature of an in-line convey

unit conveying the substrates in the in-line system, as recited in claim 1.

As such, based on the foregoing, an early and favorable reconsideration is earnestly solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Scott L. Appelbaum", written over a horizontal line.

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